

FORM 43 ANALYTICAL PARAMETERS
INITIAL SUBMITTAL AND RECERTIFICATION

TCLP ANALYSIS

pH
 Phenolics
 Antimony
 Arsenic
 Barium
 Cadmium
 Chromium
 Hexavalent Chromium
 Lead
 Mercury
 Nickel
 Selenium
 Silver
 Copper
 Molybdenum
 Zinc
 Benzene
 Benzo(a)pyrene
 Bis(2EH)Phthalate
 Chlordane
 DDT
 DDD
 DDE
 Dimethylnitrosamine
 Lindane
 Methylene Chloride
 MEK
 Phenanthrene
 Toxaphene
 Trichloroethylene
 Carbon Tetrachloride
 Chlorobenzene
 Chloroform
 Cresol
 2,4 D
 1,4 Dichlorobenzene
 1,2 Dichloroethane
 1,1 Dichloroethylene
 2,4 Dinitrotoluene
 Endrin
 Heptachlor
 Hexachlorobenzene
 Hexachlorobutadiene
 Hexachloroethane
 Methoxychlor
 Nitrobenzene
 Pentachlorophenol
 Pyridine
 Tetrachloroethylene
 2,4,5 Trichlorophenol
 2,4,6 Trichlorophenol

2,4,5 TP Silvex
 Vinyl Chloride
 Boron

TOTAL ANALYSIS

Total Residue
 Volatile Residue
 PCB
 pH
 Cyanide
 Oil & Grease
 Ammonia-Nitrogen
 Phenolics
 Arsenic
 Barium
 Cadmium
 Chromium
 Lead
 Mercury
 Nickel
 Selenium
 Silver
 Copper
 Molybdenum
 Zinc
 Benzene
 Benzo(a)Phthalate
 Bis(2ethylhexyl)Phthalate
 Chlordane
 DDT
 DDD
 DDE
 Dimethylnitrosamine
 Lindane
 Methylene Chloride
 MEK
 Phenanthrene
 Toxaphene
 Trichloroethylene
 Reactivity
 Ignitability
 Corrosivity
 Paint Filter
ASTM ANALYSIS
 Oil & Grease
 Ammonia Nitrogen
 Cyanide
 TOX
 COD
 TOC
 pH
 Total Volatile Residue
 Total Filterable Residue

CERTIFICATE OF ANALYSIS



Upper Montgomery Joint Authority
P.O. BOX 6
Pennsburg, PA 18073

Report No. : 932351
Sample Date: 06/30/93
Sampled By : N/A
Received : 06/30/93
Reported : 07/15/93
P.O. Number: VERBAL

RMC Number : 7906
Sample Description: UMJA SLUDGE

Repl	Parameter	Result	RCRA LIMITS	Date Anal Completed	Ana- lyst	Method
1	ANTIMONY, TOTAL (TCLP)	<0.100 MG/L		07/07/93	KWC	EPA 6010
1	ARSENIC, TOTAL	1.52 MG/KG		07/09/93	BAK	EPA 7060
1	ARSENIC, TOTAL (TCLP)	<0.100 MG/L	5.0 MG/L	07/07/93	KWC	EPA 6010
1	BARIUM, TOTAL	297 MG/KG		07/07/93	KWC	EPA 6010
1	BARIUM, TOTAL (TCLP)	0.559 MG/L	100.0 MG/L	07/07/93	KWC	EPA 6010
1	BORON (TCLP)	0.352 MG/L		07/07/93	KWC	EPA 6010
1	CADMIUM, TOTAL	<1.00 MG/KG		07/07/93	KWC	EPA 6010
1	CADMIUM, TOTAL (TCLP)	<0.050 MG/L	1.0 MG/L	07/07/93	KWC	EPA 6010
1	CHROMIUM, HEXAVALENT, TOTAL (TCLP)	<0.002 MG/L		07/13/93	BAK	EPA 218.4
1	CHROMIUM, TOTAL	98.4 MG/KG		07/07/93	KWC	EPA 6010
1	CHROMIUM, TOTAL (TCLP)	<0.050 MG/L	5.0 MG/L	07/07/93	KWC	EPA 6010
1	COPPER, TOTAL	214 MG/KG		07/07/93	KWC	EPA 6010
1	COPPER, TOTAL (TCLP)	<0.050 MG/L		07/07/93	KWC	EPA 6010
1	LEAD, TOTAL	50.0 MG/KG		07/07/93	KWC	EPA 6010
1	LEAD, TOTAL (TCLP)	<0.100 MG/L	5.0 MG/L	07/07/93	KWC	EPA 6010
1	MERCURY, TOTAL	1.3 MG/KG		07/01/93	JNO	EPA 7470, 7471
1	MERCURY, TOTAL (TCLP)	<0.0002 MG/L	0.2 MG/L	07/08/93	JNO	EPA 7470
1	MOLYBDENUM, TOTAL	<10.0 MG/KG		07/07/93	KWC	EPA 6010
1	MOLYBDENUM, TOTAL (TCLP)	<0.500 MG/L		07/07/93	KWC	EPA 200.7
1	NICKEL, TOTAL	31.0 MG/KG		07/07/93	KWC	EPA 6010
1	NICKEL, TOTAL (TCLP)	0.255 MG/L		07/07/93	KWC	EPA 6010
1	SELENIUM, TOTAL	0.844 MG/KG		07/12/93	BAK	EPA 7740
1	SELENIUM, TOTAL (TCLP)	<0.100 MG/L	1.0 MG/L	07/07/93	KWC	EPA 6010
1	SILVER, TOTAL	5.89 MG/KG		07/07/93	KWC	EPA 6010
1	SILVER, TOTAL (TCLP)	<0.050 MG/L	5.0 MG/L	07/07/93	KWC	EPA 6010
1	ZINC, TOTAL	205 MG/KG		07/07/93	KWC	EPA 6010
1	ZINC, TOTAL (TCLP)	1.26 MG/L		07/07/93	KWC	EPA 6010
1	AMMONIA (SOLID-DIST.)	340 MG/KG		07/06/93	ABB	EPA 350.1 (MOD)
1	AMMONIA-NITROGEN(WATER LEACH)	2.6 MG/L		07/06/93	ABB	EPA 350.1
1	CHEMICAL OXYGEN DEMAND(WATER LEACH)	38 MG/L		07/06/93	LAC	EPA 410.4

Approved By:

Twila E. Dixon
Twila E. Dixon
Laboratory Manager

AR300046

CERTIFICATE OF ANALYSIS

RMC
Analytics

Upper Montgomery Joint Authority
P.O. BOX 6
Pennsburg, PA 18073

Report No. : 932351
Sample Date: 06/30/93
Sampled By : N/A
Received : 06/30/93
Reported : 07/15/93
P.O. Number: VERBAL

RMC Number : 7906
Sample Description: UMJA SLUDGE

Rept	Parameter	Result	RCRA LIMITS	Date Anl Completed	Ana- lyst	Method
1	CYANIDE, TOTAL (MACRO DIST.)	3.71 MG/KG		07/06/93	BLB	EPA 9012
1	CYANIDE, TOTAL (WATER LEACH)	<0.005 MG/L		07/06/93	BLB	EPA 9012
1	PHENOLICS (MACRO DIST.)	1.9 MG/KG		07/09/93	ABB	EPA 9066
1	PHENOLICS (TCLP)	<0.05 MG/L		07/06/93	ABB	EPA 9066
1	FORM 43 PEST & PCB (SOLID)	SEE PEST. ATTACHMENT		07/08/93	JAI	EPA 8080
1	FORM 43 PEST & PCB (TCLP)	SEE PEST. ATTACHMENT		07/07/93	JAI	EPA 8080
1	HERBICIDE: 2,4,5-TP (TCLP)	<100 UG/L	1.0 MG/L	07/09/93	SDF	EPA 8150
1	HERBICIDE: 2,4-D (TCLP)	<1000 UG/L	10.0 MG/L	07/09/93	SDF	EPA 8150
1	FORM 43 SEMI-VOLATILES (SOLID)	SEE SEMI-VOL. ATTACHMENT		07/08/93	JVG	EPA 8270
1	FORM 43 SEMI-VOLATILES (TCLP)	SEE SEMI-VOL. ATTACHMENT		07/08/93	JVG	EPA 8270
1	FORM 43 VOLATILES (SOLID)	SEE VOL. ATTACHMENT		07/02/93	DEM	EPA 8240
1	FORM 43 VOLATILES (TCLP)	SEE VOL. ATTACHMENT		07/07/93	SDW	EPA 8240
1	PH (SOLID)	7.50		07/01/93	LAC	EPA 9045
1	PH(WATER LEACHATE)	7.59		07/02/93	JNO	EPA 150.1
1	PH (TCLP - NON-VOLATILE)	5.16		07/02/93	JNO	EPA 150.1
1	PH (TCLP - ZERO HEADSPACE)	5.19		07/02/93	JNO	EPA 150.1
1	TCLP SETUP - NON-VOLATILES	COMPLETED		07/02/93	JNO	EPA 1311
1	TCLP SETUP - VOLATILES	COMPLETED		07/02/93	JNO	EPA 1311
1	OIL + GREASE (SOLID)	320 MG/KG		07/09/93	KAJ	EPA 9070,9071,413.21R
1	OIL + GREASE(WATER LEACH)	<0.25 MG/L		07/09/93	KAJ	EPA 413.2
1	CARBON, TOTAL ORGANIC (WATER LEACH)	15.6 MG/L		07/07/93	SPK	EPA 9060
1	CORROSIVITY	NOT CORROSIVE (7.50)	2-12.5	07/01/93	LAC	SW-846, SEC 7.2.1A
1	IGNITABILITY (SOLID)	NOT IGNITABLE		07/02/93	JNO	ASTM D-4982-89A
1	PAINT FILTER TEST	NO FREE LIQUIDS		07/01/93	LAC	EPA 9095
1	REACTIVITY	NOT REACTIVE		07/02/93	JNO	SW-846, SEC. 7.3
1	REACTIVITY: CYANIDE	<1 MG/KG	250 MG/KG	07/01/93	ABB	SW846, SEC 7.3
1	REACTIVITY: SULFIDE	<50 MG/KG	500 MG/KG	07/01/93	BLB	SW-846, SEC. 7.3
1	TOTAL DISSOLVED SOLIDS(WATER LEACH)	181 MG/L		07/06/93	LMS	EPA 160.1
1	TOTAL ORGANIC HALOGENS(WATER LEACH)	54 UG/L		07/08/93	SPK	EPA 9020
1	TOTAL SOLIDS	252000 MG/KG		07/01/93	LMS	EPA 160.3

Approved By:

Twila E. Dixon
Twila E. Dixon
Laboratory Manager

AR300047

CERTIFICATE OF ANALYSIS



Upper Montgomery Joint Authority
P.O. BOX 6
Pennsburg, PA 18073

Report No. : 932351
Sample Date: 06/30/93
Sampled By : N/A
Received : 06/30/93
Reported : 07/15/93
P.O. Number: VERBAL

RMC Number : 7906
Sample Description: UMJA SLUDGE

Repl	Parameter	Result	RCRA LIMITS	Date Anal Completed	Ana- lyst	Method
1	TOTAL VOLATILE SOLIDS	509000 MG/KG		07/01/93	LMS	EPA 160.4
1	TOTAL VOLATILE SOLIDS (WATER LEACH)	29 MG/L		07/06/93	LMS	EPA 160.4
1	WATER LEACHATE SET UP	COMPLETED		07/02/93	JNO	ASTM D3987-85

Approved By:

Twila E. Dixon
Twila E. Dixon
Laboratory Manager

Page 3 of 3

AR300048

CERTIFICATE OF ANALYSIS

RMC
Analytics

CLIENT I.D.: UMJA SLUDGE
RMC I.D.: 7906

DATE ANALYZED: Jul 8, 1993
ANALYZED BY: JAI

Pesticides

	ug/Kg		ug/Kg
a-BHC	<8.00	4,4'-DDD	<16.0
g-BHC	<8.00	endrin aldehyde	<16.0
b-BHC	<8.00	endosulfan sulfate	<16.0
d-BHC	<8.00	4,4'-DDT	<16.0
heptachlor	<8.00	chlordane	<80.0
aldrin	<8.00	toxaphene	<160
heptachlor epoxide	<8.00	PCB-1016	<80.0
endosulfan I	<8.00	PCB-1221	<80.0
4,4'-DDE	<16.0	PCB-1232	<80.0
dieldrin	<16.0	PCB-1242	<80.0
endrin	<16.0	PCB-1248	<80.0
endosulfan II	<16.0	PCB-1254	<160
		PCB-1260	<160

<X=Not detected;value indicates minimum quantifiable limit.

Approved By: 

AR300049

CERTIFICATE OF ANALYSIS

RMC
Analytics

Summary of Toxicity Characteristic Leaching Procedure

CLIENT I.D.: UMJA SLUDGE
RMC I.D.: 7906

DATE ANALYZED: Jul 7, 1993
ANALYZED BY: JAI

Pesticides

	<u>ug/L</u>		<u>ug/L</u>
g-BHC (Lindane)	<40	methoxychlor	<1000
heptachlor	<0.8	4,4'-DDT	<2.0
heptachlor epoxide	<0.8	chlordane	<3.0
4,4'-DDE	<2.0	toxaphene	<50
endrin	<2.0	4,4'-DDD	<2.0

<X=Not detected,value indicates minimum quantifiable limit.

Approved By:



AR300050

CERTIFICATE OF ANALYSIS

RMC
Analytics

Semivolatile Analysis Data

CLIENT I.D. : UMJA SLUDGE

Date Analyzed : 07/08/93

RMC I.D. : 932351-7906

Analyzed By : JVG

COMPOUND	UG/KG	QL	COMPOUND	UG/KG	QL
N-Nitrosodimethylamine	U	330	4-Nitrophenol	U	1700
bis(2-Chloroethyl)Ether	U	330	Fluorene	U	330
Phenol	U	330	Diethylphthalate	U	330
2-Chlorophenol	U	330	4-Chlorophenyl-phenylether	U	330
1,3-Dichlorobenzene	U	330	4,6-Dinitro-2-methylphenol	U	1700
1,4-Dichlorobenzene	120 JB	330	N-Nitrosodiphenylamine	U	330
1,2-Dichlorobenzene	U	330	1,2-Diphenyl Hydrazine	U	330
bis(2-chloroisopropyl)ether	U	330	4-Bromophenyl-phenylether	U	330
Hexachloroethane	U	330	Hexachlorobenzene	U	330
N-Nitroso-Di-n-propylamine	U	330	Pentachlorophenol	U	1700
Nitrobenzene	U	330	Phenanthrene	U	330
Isophorone	U	330	Anthracene	U	330
2-Nitrophenol	U	330	Di-n-butylphthalate	U	330
2,4-Dimethylphenol	U	330	Fluoranthene	U	330
bis(2-Chloroethoxy)methane	U	330	Pyrene	U	330
2,4-Dichlorophenol	U	330	Benzidine	U	2600
1,2,4-Trichlorobenzene	U	330	Butylbenzylphthalate	U	330
Naphthalene	U	330	Benzo(a)anthracene	U	330
Hexachlorobutadiene	U	330	3,3'-Dichlorobenzidine	U	660
4-Chloro-3-methylphenol	U	330	Chrysene	U	330
Hexachlorocyclopentadiene	U	330	bis(2-Ethylhexyl)phthalate	2000	330
2,4,6-Trichlorophenol	U	330	Di-n-octylphthalate	U	330
2-Chloronaphthalene	U	330	Benzo(b)fluoranthene	U	330
Acenaphthylene	U	330	Benzo(k)fluoranthene	U	330
Dimethylphthalate	U	330	Benzo(a)pyrene	U	330
2,6-Dinitrotoluene	U	330	Indeno(1,2,3-cd)pyrene	U	330
Acenaphthene	U	330	Dibenzo(a,h)anthracene	U	330
2,4-Dinitrophenol	U	1700	Benzo(g,h,i)perylene	U	330
2,4-Dinitrotoluene	U	330			

SURROGATE COMPOUNDS	RECOVERY
2-Fluorophenol	77 %
Phenol-d5	79 %
Nitrobenzene-d5	84 %
2-Fluorobiphenyl	104 %
2,4,6-Tribromophenol	103 %
Terphenyl-d14	92 %

Percent Solid of 100. is used for all Target compounds.

QL = Sample specific quantitation limit

Qualifiers

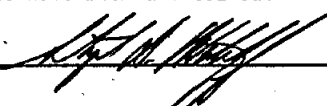
(J) Indicates an estimated value

(U) Indicates compound not detected

(B) Indicates compound found in blank

(D) Indicates surrogates have been diluted out

Approved By



AR300051

CERTIFICATE OF ANALYSIS

Semivolatile Analysis Data

RMC
Analytics

Client I.D. : UMJA SLUDGE
RMC I.D. : 932351-7906 TCLP

Date Analyzed : 07/08/93
Analyst : JVG

Compound	uG/L	QL	Compound	uG/L	QL
Pyridine	U	100	2,4,5-Trichlorophenol	U	500
N-Nitrosodimethylamine	U	100	2,4-Dinitrotoluene	U	100
2-Methylphenol	U	100	Hexachlorobenzene	U	100
Hexachloroethane	U	100	Pentachlorophenol	U	500
3- & 4-Methylphenol	U	100	Phenanthrene	U	100
Nitrobenzene	U	100	bis(2-Ethylhexyl)phthalate	U	100
Hexachlorobutadiene	U	100	Benzo(a)pyrene	U	100
2,4,6-Trichlorophenol	U	100			

Surrogate Compounds	Recovery
2-Fluorophenol	16 %
Phenol-d5	19 %
Nitrobenzene-d5	96 %
2-Fluorobiphenyl	88 %
2,4,6-Tribromophenol	13 %
Terphenyl-d14	99 %

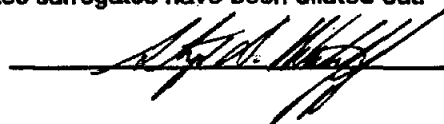
Percent solid of 100, is used for all Target compounds.

QL = Sample specific quantitation limit.

Qualifiers: (J) Indicates an estimated value.
(B) Indicates compound found in blank.

(U) Indicates compound not detected.
(D) Indicates surrogates have been diluted out.

Approved by



AR300052

CERTIFICATE OF ANALYSIS



RMC Environmental Chemistry Laboratory
Volatile Organic Analysis Data

CLIENT I.D. : LMJA SLUDGE
RMC I.D. : 932351-7906

Date Analyzed : 07/02/93
Analyzed By : DEM

COMPOUND	UG/KG	QL	COMPOUND	UG/KG	QL
Chloromethane	U	50	1,2-Dichloropropane	U	25
Bromomethane	U	50	cis-1,3-Dichloropropene	U	25
Vinyl Chloride	U	50	Trichloroethene	U	25
Chloroethane	U	50	Benzene	U	25
Methylene Chloride	70 B	25	Dibromochloromethane	U	25
Trichlorofluoromethane	U	25	1,1,2-Trichloroethane	U	25
1,1-Dichloroethene	U	25	trans-1,3-Dichloropropene	U	25
1,1-Dichloroethane	U	25	Bromoform	U	25
1,2-Dichloroethene (total)	U	25	Tetrachloroethene	U	25
Chloroform	U	25	1,1,2,2-Tetrachloroethane	U	25
1,2-Dichloroethane	U	25	Toluene	U	25
2-Butanone	U	50	Chlorobenzene	U	25
1,1,1-Trichloroethane	U	25	Ethylbenzene	U	25
Carbon Tetrachloride	U	25	1,3-Dichlorobenzene	U	25
Bromodichloromethane	U	25	1,2 & 1,4-Dichlorobenzene	U	25

SURROGATE COMPOUNDS	RECOVERY
1,2-Dichloroethane-d4	109 %
Toluene-d8	112 %
Bromofluorobenzene	111 %

QL = Sample specific quantitation limit

Qualifiers

- (J) Indicates an estimated value
- (U) Indicates compound not detected
- (D) Indicates surrogates have been diluted out
- (B) Indicates compound found in blank

Percent Solid of 100. is used for all Target compounds.

Approved By [Signature]

AR300053

CERTIFICATE OF ANALYSIS



RMC Environmental Chemistry Laboratory
Volatile Organic Analysis Data

CLIENT I.D. : UHJA SLUDGE
RMC I.D. : 932351-7906 TCLP

Date Analyzed : 07/07/93
Analyzed By : SDW

COMPOUND	UG/L	QL	COMPOUND	UG/L	QL
Vinyl Chloride	U	100	Carbon Tetrachloride	U	50
Methylene Chloride	120 B	50	Trichloroethene	U	50
1,1-Dichloroethene	U	50	Benzene	U	50
Chloroform	23 JB	50	Tetrachloroethene	U	50
1,2-Dichloroethane	U	50	Chlorobenzene	U	50
2-Butanone	U	100	1,2 & 1,4-Dichlorobenzene	23 JB	50

<u>SURROGATE COMPOUNDS</u>	<u>RECOVERY</u>
1,2-Dichloroethane-d4	<u>101</u> %
Toluene-d8	<u>103</u> %
Bromofluorobenzene	<u>98</u> %

QL = Sample specific quantitation limit

Qualifiers

- (J) Indicates an estimated value
- (U) Indicates compound not detected
- (D) Indicates surrogates have been diluted out
- (B) Indicates compound found in blank

Approved By 

AR300054

CERTIFICATE OF ANALYSIS

RMC
Analytics

Semivolatile Analysis Data

CLIENT I.D. : >C0495 METHOD BLANK

Date Analyzed : 07/08/93

RMC I.D. : METHOD BLANK

Analyzed By : JVG

COMPOUND	UG/KG	QL	COMPOUND	UG/KG	QL
N-Nitrosodimethylamine	U	330	4-Nitrophenol	U	1700
bis(2-Chloroethyl)Ether	U	330	Fluorene	U	330
Phenol	U	330	Diethylphthalate	U	330
2-Chlorophenol	U	330	4-Chlorophenyl-phenylether	U	330
1,3-Dichlorobenzene	U	330	4,6-Dinitro-2-methylphenol	U	1700
1,4-Dichlorobenzene	75 J	330	N-Nitrosodiphenylamine	U	330
1,2-Dichlorobenzene	U	330	1,2-Diphenyl Hydrazine	U	330
bis(2-chloroisopropyl)ether	U	330	4-Bromophenyl-phenylether	U	330
Hexachloroethane	U	330	Hexachlorobenzene	U	330
N-Nitroso-Di-n-propylamine	U	330	Pentachlorophenol	U	1700
Nitrobenzene	U	330	Phenanthrene	U	330
Isophorone	U	330	Anthracene	U	330
2-Nitrophenol	U	330	Di-n-butylphthalate	U	330
2,4-Dimethylphenol	U	330	Fluoranthene	U	330
bis(2-Chloroethoxy)methane	U	330	Pyrene	U	330
2,4-Dichlorophenol	U	330	Benzidine	U	2600
1,2,4-Trichlorobenzene	U	330	Butylbenzylphthalate	U	330
Naphthalene	U	330	Benzo(a)anthracene	U	330
Hexachlorobutadiene	U	330	3,3'-Dichlorobenzidine	U	660
4-Chloro-3-methylphenol	U	330	Chrysene	U	330
Hexachlorocyclopentadiene	U	330	bis(2-Ethylhexyl)phthalate	U	330
2,4,6-Trichlorophenol	U	330	Di-n-octylphthalate	U	330
2-Chloronaphthalene	U	330	Benzo(b)fluoranthene	U	330
Acenaphthylene	U	330	Benzo(k)fluoranthene	U	330
Dimethylphthalate	U	330	Benzo(a)pyrene	U	330
2,6-Dinitrotoluene	U	330	Indeno(1,2,3-cd)pyrene	U	330
Acenaphthene	U	330	Dibenzo(a,h)anthracene	U	330
2,4-Dinitrophenol	U	1700	Benzo(g,h,i)perylene	U	330
2,4-Dinitrotoluene	U	330			

SURROGATE COMPOUNDS

SURROGATE COMPOUNDS	RECOVERY
2-Fluorophenol	72 %
Phenol-d5	67 %
Nitrobenzene-d5	64 %
2-Fluorobiphenyl	75 %
2,4,6-Tribromophenol	80 %
Terphenyl-d14	78 %

Percent Solid of 100. is used for all Target compounds.

QL = Sample specific quantitation limit

Qualifiers

(J) Indicates an estimated value

(U) Indicates compound not detected

(B) Indicates compound found in blank

(D) Indicates surrogates have been diluted out

Approved By

AR300055

CERTIFICATE OF ANALYSIS

Semivolatile Analysis Data

RMC
Analytics

Client I.D.: E2986 METHOD BLANK

Date Analyzed: 07/08/93

RMC I.D.: METHOD BLANK

Analyst: JVG

Compound	uG/L	QL	Compound	uG/L	QL
Pyridine	U	100	2,4,5-Trichlorophenol	U	500
N-Nitrosodimethylamine	U	100	2,4-Dinitrotoluene	U	100
2-Methylphenol	U	100	Hexachlorobenzene	U	100
Hexachloroethane	U	100	Pentachlorophenol	U	500
3- & 4-Methylphenol	U	100	Phenanthrene	U	100
Nitrobenzene	U	100	bis(2-Ethylhexyl)phthalate	U	100
Hexachlorobutadiene	U	100	Benzo(a)pyrene	U	100
2,4,6-Trichlorophenol	U	100			

Surrogate Compounds

Surrogate Compounds	Recovery
2-Fluorophenol	79 %
Phenol-d5	65 %
Nitrobenzene-d5	89 %
2-Fluorobiphenyl	87 %
2,4,6-Tribromophenol	76 %
Terphenyl-d14	93 %

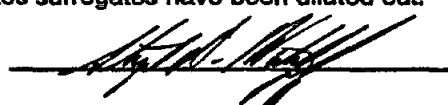
Percent solid of 100. is used for all Target compounds.

QL - Sample specific quantitation limit.

Qualifiers: (J) Indicates an estimated value.
(B) Indicates compound found in blank.

(U) Indicates compound not detected.
(D) Indicates surrogates have been diluted out.

Approved by



300056

CERTIFICATE OF ANALYSIS

RMC
Analytics

RMC Environmental Chemistry Laboratory
Volatile Organic Analysis Data

CLIENT I.D. : >B4528 METHOD BLANK
RMC I.D. : METHOD BLANK

Date Analyzed : 07/01/93
Analyzed By : DEM

COMPOUND	UG/L	QL	COMPOUND	UG/L	QL
Chloromethane	U	10	1,2-Dichloropropane	U	5
Bromomethane	U	10	cis-1,3-Dichloropropene	U	5
Vinyl Chloride	U	10	Trichloroethene	U	5
Chloroethane	U	10	Benzene	U	5
Methylene Chloride	8	5	Dibromochloromethane	U	5
Trichlorofluoromethane	U	5	1,1,2-Trichloroethane	U	5
1,1-Dichloroethene	U	5	trans-1,3-Dichloropropene	U	5
1,1-Dichloroethane	U	5	Bromoform	U	5
1,2-Dichloroethene (total)	U	5	Tetrachloroethene	U	5
Chloroform	U	5	1,1,2,2-Tetrachloroethane	U	5
1,2-Dichloroethane	U	5	Toluene	U	5
2-Butanone	U	10	Chlorobenzene	U	5
1,1,1-Trichloroethane	U	5	Ethylbenzene	U	5
Carbon Tetrachloride	U	5	1,3-Dichlorobenzene	U	5
Bromodichloromethane	U	5	1,2 & 1,4-Dichlorobenzene	U	5

<u>SURROGATE COMPOUNDS</u>	<u>RECOVERY</u>
1,2-Dichloroethane-d4	102 %
Toluene-d8	100 %
Bromofluorobenzene	99 %

QL = Sample specific quantitation limit

Qualifiers

- (J) Indicates an estimated value
- (U) Indicates compound not detected
- (D) Indicates surrogates have been diluted out
- (B) Indicates compound found in blank

Approved By _____

AR300057

CERTIFICATE OF ANALYSIS



RMC Environmental Chemistry Laboratory
Volatile Organic Analysis Data

CLIENT I.D. : >B4565 METHOD BLANK
RMC I.D. : METHOD BLANK

Date Analyzed : 07/07/93
Analyzed By : SDW

COMPOUND	UG/L	QL	COMPOUND	UG/L	QL
Vinyl Chloride	U	10	Carbon Tetrachloride	U	5
Methylene Chloride	11	5	Trichloroethene	U	5
1,1-Dichloroethene	U	5	Benzene	U	5
Chloroform	1 J	5	Tetrachloroethene	U	5
1,2-Dichloroethane	U	5	Chlorobenzene	U	5
2-Butanone	U	10	1,2 & 1,4-Dichlorobenzene	2 J	5

SURROGATE COMPOUNDS	RECOVERY
1,2-Dichloroethane-d4	99 %
Toluene-d8	98 %
Bromofluorobenzene	95 %

QL = Sample specific quantitation limit

Qualifiers

- (J) Indicates an estimated value
- (U) Indicates compound not detected
- (D) Indicates surrogates have been diluted out
- (B) Indicates compound found in blank

Approved By 

AR300058

S - soil **WW - waste water**
SE - sediment **PW - potable water**
SSO - solid **SW - surface water**
WS - solid waste **GW - ground water**
DS - drum solids **DL - drum liquids**
SL - sludge **ST - stormwater**
O - oil **A - air**
WI - wipe **F - fish**
BI - biological **X - other**



GENERATOR'S WASTE PROFILE SHEET INSTRUCTIONS

Information on this form, is used to determine if the waste may be transported, treated, stored or disposed in a legal, safe, and environmentally sound manner. This information will be maintained in strict confidence. Answers must be provided for all sections of this form, and must be printed in ink or typed. A response of "NONE," or "NA" (not applicable) can be made, if appropriate. If additional space is needed, indicate on the form that additional information is attached, and attach the information to the Generator's Waste Profile Sheet. Shaded areas of the attached form are for Contractor's use only. If you have questions concerning this form, please contact Contractor's sales representative.

PART A. WASTE GENERATOR INFORMATION

1. GENERATOR NAME - Enter the name of the facility where the waste is generated.
2. SIC CODE - Enter the 4-digit Standard Industrial Classification Code for the facility where the waste is generated.
3. FACILITY ADDRESS - Enter the street address (not P.O. Box) of the facility where the waste is generated.
4. GENERATOR CITY, STATE/PROVINCE - Enter the city and state or province where the waste is generated.
5. ZIP/POSTAL CODE - Enter the generating facility's zip or postal code.
6. GENERATOR USEPA/CANADIAN FEDERAL ID - Enter the identification number issued by the USEPA or CANADIAN FEDERAL AGENCY to the facility generating the waste (if applicable).
7. GENERATOR STATE/PROVINCE ID - Enter the identification number issued by the state or province to the facility generating the waste (if applicable).
8. TECHNICAL CONTACT - Enter the name of the person who can answer technical questions about the waste.
9. PHONE - Enter technical contact's telephone number.

PART B. WASTE STREAM INFORMATION

1. NAME OF WASTE - Enter a name generally descriptive of this waste (e.g., paint sludge, contaminated soil, incinerator ash, untreated medical waste, friable asbestos, fluorescent bulbs).
2. PROCESS GENERATING WASTE - List the specific process/operation or source that generates the waste (e.g., paint spray booth, spill clean up, incineration of municipal refuse, asbestos removal, building maintenance).
3. ANNUAL AMOUNT/UNITS - Enter the amount of waste that will be generated and transported annually. Use appropriate units to describe this volume (e.g., cubic yards, gallons, kilograms, pounds).
4. WASTE TYPE - Based upon reading the Contractor's Definition of Special Waste that is included in section B.5 of these instructions, determine whether your waste is a "Type A Special Waste" or a "Type B Special Waste". Indicate the proper response in the space provided.
5. SPECIAL HANDLING INSTRUCTIONS/SUPPLEMENTAL INFORMATION - For all wastes, describe any special handling requirements and any additional information that you feel would assist in determining the proper method(s) for transportation, treatment, storage, and disposal of the waste. For Type B Special Waste, provide the "supplemental information" requested after each applicable definition.

CONTRACTOR'S DEFINITION OF SPECIAL WASTE

- a. "Special Waste" means Type A or Type B Special Wastes as defined below.
- b. "Type A Special Waste" means any waste from a commercial or industrial activity meeting any of the following descriptions:
 - i. A waste from an industrial process.
 - ii. A waste from a pollution control process.
 - iii. A waste containing free liquids.
 - iv. Residue and debris from the cleanup of a spill of a chemical substance or commercial product or a waste listed in i.-iii., or v.-vii. of this definition.
 - v. Contaminated residuals, or articles from the cleanup of a facility generating, storing, treating, recycling, or disposing chemical substances, commercial products, or wastes listed in i.-iv., vi., or vii. of this definition.
 - vi. Any waste which is non-hazardous as a result of treatment pursuant to Subtitle C of the Resource Conservation and Recovery Act (RCRA).
 - vii. Chemical-containing equipment removed from service, in which the chemical composition and concentration are unknown.



c. "Type B Special Waste" means any waste from a commercial or industrial activity meeting any of the following descriptions:

- i. **Friable asbestos waste from building demolition or cleaning;** wall board, wall or ceiling spray coverings, pipe insulation, etc. This does not include nonfriable asbestos unless it has been processed, handled or used in such a way that asbestos fibers may be freely released. Asbestos-bearing industrial process waste is a "Type A Special Waste".

Supplemental Information - List the source (e.g., building demolition, pipe insulation removal) of the asbestos or asbestos containing material(s) and the type of asbestos containing material (e.g., pipe insulation). List the proper USEPA or Federal (and/or state or provincial) waste identification code (if applicable). List the wetting agent(s) used to wet the asbestos material before packaging and include its chemical composition or a current Material Safety Data Sheet. List the size and type of container(s) that will be used to contain the asbestos. Indicate whether the asbestos has been contaminated with any other wastes, and if so, list them.

- ii. **Commercial products or chemicals which are off-specification, outdated, unused, or banned.** Outdated or off-specification uncontaminated food or beverage products in original consumer containers are not included in this category, unless management of such containers is restricted by applicable regulations. Containers which once held commercial products or chemicals are included in this category unless an end has been removed (for containers larger than 25 gallons), and the container is empty as defined by RCRA, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), or other applicable regulations.

- RCRA considers a container to be empty when: all wastes have been removed that can be removed using the practices commonly employed to remove materials from the type of container (e.g., pouring, pumping or aspirating), and no more than 1 inch (2.54 centimeters) of residue remains on the bottom of the container or inner liner, or no more than 3% by weight of the total capacity of the container remains in the container or inner liner (for containers \leq 110 gallons), or no more than 0.3% by weight of the total capacity of the container remains in the the container or inner liner (for containers $>$ 110 gallons). Containers which once held **ACUTELY HAZARDOUS WASTES** must be triple rinsed with an appropriate solvent or cleaned by an equivalent method. The pressure in cylinders of compressed gas and aerosol cans must be substantially equivalent to atmospheric pressure.

- Containers which once held pesticides regulated under FIFRA must be emptied according to label instructions.

Supplemental Information - List the commercial product or chemical and include the proper waste identification code (if applicable) for that material. List whether the commercial product or chemical has been banned, if so why and by what agency. List whether the commercial product or chemical is off-specification and why. Attach copies of the most current Material Safety Data Sheets, if they exist. Indicate the current state of the waste (e.g. sludge, liquid, solid).

- iii. **Untreated medical waste** - Any waste capable of inducing infection due to contamination with infectious agents from bio-medical sources including but not limited to a hospital, medical clinic, nursing home, medical practitioner, mortuary, taxidermist, veterinarian, veterinary hospital, animal testing laboratory, or medical testing laboratory. Sharps from these sources must be rendered harmless or placed in needle puncture-proof containers.

Supplemental Information - List the source from the list above. List the specific waste type(s) and include appropriate warnings for the handling of these wastes. Indicate any special requirements for the labeling, packaging and storage of these waste types.

- iv. **Treated medical waste** - Any wastes from a bio-medical source including but not limited to a hospital, medical clinic, nursing home, medical practitioner, mortuary, taxidermist, veterinarian, veterinary hospital, animal testing laboratory or medical testing laboratory which has been autoclaved or otherwise heat treated or sterilized so that it is no longer capable of inducing infection. Any sharps from these sources must be rendered harmless or placed in needle puncture-proof containers. Residue from incineration of medical waste is a "Type A Special Waste".

Supplemental Information - List the source from the list above. Specify how the waste was treated.

- v. Residue/sludges from septic tanks, food service grease traps, or washwaters and wastewaters from commercial laundries, laundromats, and car washes, unless these wastes are managed at commercial or public treatment works.

Supplemental Information - Indicate the physical state of the waste (e.g., liquid, sludge, solid). List the specific source(s) (e.g., septic tank pumpings from hotel) of the waste and indicate whether there are any industrial discharges incorporated into the waste. Indicate whether or not a commercial laundry cleans clothing that may be contaminated with chemicals from an industrial facility. List the types of vehicles cleaned at car washes. Include a statement that indicates whether the interiors of any truck, or the exteriors of bulk chemical or waste tank trucks are washed.

- vi. Chemical-containing equipment removed from service, in which the chemical composition and concentration are known (e.g., acetylene tanks, cathode ray tubes, lab equipment, fluorescent light tubes, etc.).

Supplemental Information - List the specific equipment removed from service and any additional information pertaining to the chemical contained in that equipment, including type, concentration and volume.

- vii. Waste produced from the demolition or dismantling of industrial process equipment or facilities contaminated with chemicals from the industrial process. Chemicals or residues removed or drained from such equipment or facilities are "Type A Special Wastes".

Supplemental Information - List the waste type(s) (e.g., piping, pumps, tanks) and the process type(s) from which they came. Indicate whether there are residuals contained in the process equipment. Describe the process used to decontaminate the equipment and list any chemicals or mixtures of chemicals that were used in the cleaning process. Attach a copy of the most current Material Safety Data Sheets for each of the chemicals used in the original process, the end product of the process, and the chemicals or mixtures of chemicals used in the cleaning process. Indicate whether this waste is contaminated with asbestos or asbestos insulation.

- viii. Incinerator ash generated at a Resource Recovery Facility that burned only non-hazardous household, commercial, or industrial waste and qualifies for the hazardous waste exclusion in 40 CFR 261.4(b). If the regulatory authority does not recognize the household hazardous waste exclusion, then the ash is a "Type A Special Waste".

Supplemental Information - If the ash is wetted during storage or transportation, list the wetting agent(s) used and include its chemical composition or provide a current Material Safety Data Sheet.

6. INCIDENTAL AMOUNTS OF SPECIAL WASTE - The Contractor recognizes that many customers will produce some "Special Waste," as defined above. Incidental quantities of special waste (i.e., quantities that do not materially change the physical or chemical identity of the load or make it hazardous waste), do not require the customer to sign a Generator's Waste Profile Sheet. However, the customer must identify the type and amount of special wastes which will be provided to the Contractor in incidental amounts.

PART C. TRANSPORTATION INFORMATION

1. METHOD OF SHIPMENT - Indicate the anticipated method of shipment by checking the appropriate box.
2. SUPPLEMENTAL SHIPPING INFORMATION - Enter any additional shipping information.
3. INDICATE IF THIS WASTE IS A USDOT (see 49 CFR 171) OR CANADIAN FEDERAL HAZARDOUS MATERIAL. If so, answer Questions 4, 5, and 6 below.
4. HAZARD CLASS/ID - Enter the proper USDOT or Canadian Federal hazard class/enter the proper USDOT (see 49 CFR 172) or Canadian Federal Identification Number.
5. REPORTABLE QUANTITY (RQ)/Units (lb/kg) - Enter the RQ established by 40 CFR 302.4 or equivalent Canadian regulation for this waste. Indicate the appropriate units of the RQ.
6. SHIPPING NAME - Enter the proper USDOT or Canadian Federal shipping name for this waste.

PART D. TECHNICAL MANAGER DECISION - To be completed by Contractor's representative only.

PART E. MANAGEMENT FACILITY INFORMATION/DECISION - To be completed by Contractor's representative only.

PART F. PHYSICAL CHARACTERISTICS OF WASTE - If Part B.4 was checked "Type B", go directly to Part J.

1. COLOR - Describe the color of the waste (e.g., blue, transparent, varies).
2. ODOR - DO NOT SMELL THE WASTE! If the waste has a known incidental odor, then describe it (e.g., acrid, pungent, solvent, sweet).

3. **PHYSICAL STATE** – If the four boxes provided do not apply, a descriptive phrase may be entered after "Other" (e.g., gas).
4. **LAYERS** – Check all applicable boxes. Multi-layered means more than two layers (e.g., oil/water/sludge). Bi-layered means the waste is comprised of two layers which may or may not be of the same phase (e.g., oil/water, solvent/sludge). Single phased means the waste is homogeneous.
5. **SPECIFIC GRAVITY** – Indicate the range. The specific gravity of water is 1.0. Most organics are less than 1.0. Most inorganics and paint sludge are greater than 1.0.
6. **FREE LIQUIDS** – Check "YES" if liquid is usually present when packaging for shipment and estimate the percent of liquid volume. CHECK "NO" if there are no free liquids as determined by the Paint Filter Test (Method 9095 of SW-846) or direct observation.
7. **pH** – Indicate for liquid portions of the waste. Check the appropriate boxes which cover the pH of the waste. Use the "Range" space if appropriate. For solid or organic liquid wastes, indicate the pH of a 10% aqueous solution of the waste if applicable. Check "NA" for non-water soluble materials (e.g., foundry sands).
8. **FLASH POINT** – Indicate the flash point obtained using the appropriate testing method.

PART G. CHEMICAL COMPOSITION

1. List all organic and/or inorganic components of the waste using **special chemical names**. If trade names are used, attach Material Safety Data Sheets or other documents which adequately describe the composition of the waste. For each component, estimate the range (in percents) in which the component is present. In addition, indicate whether any of the TCLP constituents are present in the waste. The total of the maximum values of the components must be greater than or equal to 100% including water, earth, etc.
2. If this waste contains PCBs, cyanides, or sulfides, indicate the concentration(s). If this waste does not contain these constituents, indicate by checking the "NO" box(es) which applies. If the concentration of these constituents is unknown, please indicate "UNK" under "ACTUAL."
3. Indicate whether the method used to determine the chemical composition in G.1. was the TCLP (Toxicity Characteristic Leaching Procedure) method, an analysis to determine the total concentrations, or another method. Specify the other method.

PART H. SAMPLING SOURCE – Describe exactly where the sample was taken (i.e., drum, lagoon, pond, tank, etc.).

PART I. REPRESENTATIVE SAMPLE CERTIFICATION – This section only needs to be completed when providing waste sample to Contractor for testing.

Some Special Wastes require analytical data to determine their chemical composition, regulatory status, and if they are acceptable for transportation, treatment or disposal. The sample should be collected in accordance with "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," SW-846, USEPA, and/or 40 CFR 261.20(c), or equivalent rules. A suitable sample container for most wastes is a wide mouth glass bottle with a plastic cap having a non-reactive liner. Plastic containers are recommended for strong caustics or fluorides. Fill to approximately 90% of capacity to allow for expansion during transportation. The sample must be packed and shipped in accordance with U.S. DOT or Canadian equivalent regulations and any specific requirements imposed by the carrier. Improperly packaged samples may be disposed upon receipt.

1. **PRINT SAMPLER'S NAME** – Enter the sampler's name.
2. **SAMPLE DATE** – Enter the date that the sample was collected.
3. **SAMPLER'S TITLE** – Enter the sampler's title.
4. **SAMPLER'S EMPLOYER** – Enter the name of the sampler's employer.
5. **SAMPLER'S SIGNATURE** – The sampler must sign in the space provided.

PART J. GENERATOR CERTIFICATION – By signing this Generator's Waste Profile Sheet, the Generator certifies that the statements in Nos. 1, 2, 3, 4, 5, and 6 are true and accurate with respect to the waste streams listed.

7. **SIGNATURE** – An authorized employee of the Generator must sign this Generator's Waste Profile Sheet.
8. **TITLE** – Enter employee's title.
9. **NAME** – Enter employee's name.
10. **DATE** – Enter the date signed.

KEEP A COPY OF THIS GENERATOR'S WASTE PROFILE SHEET FOR YOUR RECORDS. SEND THE ORIGINAL AND ALL ATTACHMENTS TO THE CONTRACTOR'S SALES REPRESENTATIVE.